AN EVALUATION OF TENNESSEE DOE'S INTERNET PROFESSIONAL DEVELOPMENT INITIATIVE ON THE ATTITUDES AND PERFORMANCE OF TEACHERS AND STUDENTS

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EXECUTIVE SUMMARY

This research was commissioned to examine the impact of TN-DOE's Connect-TEN professional development technology initiative. Participating teachers volunteered to complete the professional development program, implement a minimum of one Internet-based unit in their class, complete a succession of assessments related to their perceptions, and ensure that their students completed the same ratings and assessments. A total of 2350 volunteer teachers and their students completed an on-line, pre-unit survey prior to beginning their classroom implementation, rating their beliefs related to 8 teaching-learning constructs: Application, analysis, synthesis, usage, higher-order learning, motivation, transfer and relevance. The length of the Internet unit varied according to the complexity of the topic addressed and the discretion of the teacher, but most lasted 2-3 weeks. The same survey was administered immediately upon completion of the classroom Internet unit as well as prior to the end of the semester. The research study was implemented during Spring 2000.

Several questions were posed related to the influence of the Internet-based inservice program related to classroom teaching and learning among students and teachers in different geographic locations (urban, rural), different economic means (schools in wealthier, poorer economic areas), school level (elementary, middle, high school), and subject areas. The survey did not address specific technology knowledge or skills specifically, but rather the level of teaching and learning engendered and the nature of the activities associated with them following the completion of the state-sponsored professional development program. The purpose was to examine the extent to which everyday teaching practices shifted as a result of the classroom implementation to include more high-level activity rather than to assess perceptions towards technology per se.

Findings suggest that both teachers and students attribute performance changes to their Internet units. Ratings among both teachers and students tended to improve continuously from immediately prior to the study, to immediately following completion of a selected classroom unit, to the end of the study (near the end of the school year). Students universally rated more highly than teachers the frequency of activities related to improved, deeper thinking, with elementary school teachers generally indicating the least frequent implementation and high school teachers reporting the highest implementations. Student ratings were generally higher among urban schools and wealthier schools; however, all students reported progressively more favorable ratings throughout the study. Among students, elementary and high school urban students reported higher ratings than their rural counterparts; middle graders from both rural and urban settings reported similar ratings. Teacher ratings varied more as a function of school level, increasing from elementary, to middle, to high school.

However, actual performance improvements could not be confirmed using students' end-of-year test scores. The "gaps" selected by participating teachers for the Internet units implemented in the classroom could not be reliably classified per TCAP standards, and thus could not be reliably linked to the corresponding Terra Nova subtests. Therefore, only the more

global subject area achievement indicator related to the Internet unit could be used. Predictably, student achievement on this indicator was not effected significantly.

Several implications can be drawn. First, considerable interest in activities considered to reflect higher-level teaching-learning processes were reported by both teachers and students—especially students. Perceptions of the use of higher-level, technology-enhanced teaching and learning were generally high across teachers and students. The progressive increase in the ratings by students suggests that the ratings improvements were sustained and increased and not simply due to the near-term novelty of the Internet classroom activity. Next, teacher reports of higher-level usage tended to increase from elementary, to middle, to high school. It seems possible that teachers perceive the curriculum at middle and high school as more amenable to technology and high-level activities, or that older students are seen as being more capable of such activities.

Two key issues could not be addressed satisfactorily but warrant further study: 1) the extent to which the inservice program and resulting classroom Internet unit improved student achievement; and 2) the nature and extent to which the classroom Internet units were implemented. Initially, the unit content was to be designated using TCAP gap identifiers, and matched with corresponding Terra Nova subtest scores. This was not possible, and the overall domain achievement indicators proved too broad to be of much value. It is important to address the impact of any initiative on student performance, using a range of useful, valid indicators including but not limited to standardized achievement measures. Since the classroom implementation of the Internet units was not observed, it was not possible to corroborate student or teacher ratings independently. It is important to provide such verification not only to corroborate ratings, but to identify key practices that account for differences in perceptions and performance. This should prove important in planning for and providing sustainable support to improve both research outcomes as well as classroom practices.